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| 09/620,826      | 07/21/2000  | Reza Majidi-Ahy      | 164.1017.01         | 4409             |

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| EXAMINER |
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JONES, PRENELL P

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| ART UNIT | PAPER NUMBER |
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2668

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/620,826

**Applicant(s)**

MAJIDI-AHY ET AL.

**Examiner**

Prenell P. Jones

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-12, 14-17, 35-57 and 74-96 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 4-12, 14-17, 60-68 and 70-73 is/are allowed.
- 6) ☐ Claim(s) 35-57, 74-77, 81-83, 87-96 is/are rejected.
- 7) ☐ Claim(s) 78-80 and 84-86 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/5/05</u> . | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. Applicant's arguments with respect to claims 4-12, 14-17, 35-57 and 74-96 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 35-57 are rejected under 35 U.S.C. 101 because Applicant is claiming in independent claims 35 and 50, a method that includes optimizing communication channels by adjusting communication parameters. But, claim 35 and 50 fail to demonstrate a purpose or application for the optimizing of communication parameters.

The disclosed invention is inoperative and therefore lacks utility. Independent claims 35 and 50 fail to demonstrate a purpose or application for the optimizing of communication parameters.

Regarding claim 50, Applicant is claiming in line 4, "said steps of optimizing," which is not displayed in the claim or specification. Examiner is unclear as to what steps of optimizing that Applicant is referring to.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 50-57, 43, 44, 82, 83 and 87 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 50 recites the limitation "said steps" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 51-57 depend on claim 50; therefore, claims 51-57 are rejected as well.

Claims 43 and 44 recites the limitation "said set of parameters" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 82 and 83 recites the limitation "said set of parameters" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 87, in line 2, Applicant is claiming "a type of application service", which is unclear to Examiner as to exactly what Applicant is claiming.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United

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States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 35, 37-40 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Dicker et al (US PAT. 6,975,603).

Regarding claim 35, Dicker (US PAT 6,975,603) discloses optimizing a plurality of communication parameters in a point-to-multipoint communication system, said optimization including time-varying adjustment of said plurality of communication parameters for a set of independent communication channels in said communication system, said time-varying adjustment being responsive to at least one of statistical or time-varying, aspects of each independent said communication channel of said set of independent communication channels; wherein said time-varying adjustment is independent with regard to each said independent communication channel; (Abstract, col. 1, line 51-67, col. 2, line 65-67, col. 7, line 1-20, minimizing loss of information in a wireless communication system wherein the architecture includes a plurality of individual communication channels, point-to-multipoint communication, adjusting/varying time with respect to error rate), and wherein said communication parameters are effective to alter aspects of each said independent communication channel with regard to frequency-variation, spatial-variation, or time-variation of each said independent communication channel, (col. 5, line 34-49, col. 6, line 23-39, line 52-62, col. 7, line 27-45, col. 8, line 1-44, optimizing the quality for each individual channel, selecting/adjusting/changing parameters dynamically, such as the frequency to varying conditions with respect to grouped individual channels/set independent channels).

Regarding claim 37, Dicker further discloses wherein optimizing includes adjusting multiple parameters, whereby an effect of adjusting of parameters is maximized (col. 3, line 31-48, maximization of throughput information with respect to changing frequency for each channel).

Regarding claim 38 and 49, Dicker further discloses wherein optimizing includes adjusting multiple parameters, whereby an effect of adjusting of parameters includes decreasing interferences and transmission latency (col. 3, line 31-67, col. 4, line 43-61, col. 5, line 34-49, col. 6, line 27-39, adjusting communication parameters minimize the loss of information (interference/blocking data)).

Regarding claim 40, Dicker further discloses selection process based measurement of quality parameters (col. 6, line 5-67).

7. Claim 50, 52, 53, 74-77, 81 and 89 are rejected under 35 U.S.C. 102(e) as being anticipated by Levin et al (US PAT. 6,625,777).

Regarding claim 50 and 52, Levin discloses wireless communication optimizing a set of parameters for a communication channel, said parameters including time-varying parameters (col. 6, line 59-67, Fig. 7, col. 9, line 22-65 calculation/varying of frequency bins with respect to optimizing set of parameters), and wherein said steps of optimizing include adjusting said set of parameters in an integrated manner for optimal performance, said optimal performance being responsive to interference conditions and/or multi-path conditions (Fig. 1, the functionality of optimizing set of parameters may be performed by integrated circuitry, optimizing/adjusting set

of parameters in a wireless mobile system in real-time is based on conditions measured throughout the network as associated with minimizing interference in the system, varying frequency and time-variable traffic loads are among the conditions measured, update of parameter sets are based on measured interference levels, col. 5, line 13-67, col. 15, line 29 thru col. 16).

Regarding claim 53, Levin further discloses optimizing a set of line characters/parameters in an ADSL/ISDN communication system whereby the architecture also includes a video server for communicating video data via video software installed on the video server (Fig. 1, col. 4, line 27-35, col. 16, line 37-48).

Regarding claims 74, 75, 77, 88, 89 and 91, Levin discloses wireless communication equipment processor and associated communication link/channel that executes instructions to control communication over said communication channel; and memory that stores information including said instructions, the instructions including the steps of optimizing a set of parameters (Figs. 2-10, computer software, associated with a control processor for adjusting parameters on a per channel basis as associated with configuring optimal performance for a set of line/channel characteristics, whereby the software/computer program is stored in memory (col. 3, line 14-57, col. 4, line 3-26, col. 5, line 13-67 col. 12, line 31-50), optimizing a set of parameters for a communication channel, said parameters including time-varying parameters (col. 6, line 59-67, Fig. 7, col. 9, line 22-65 calculation/varying of frequency bins with respect to optimizing set of parameters), and wherein said steps of optimizing include adjusting said set of parameters in an integrated manner for optimal performance, said optimal performance being responsive to interference conditions and/or multi-path conditions (Fig. 1, the functionality of optimizing set of

parameters may be performed by integrated circuitry, optimizing/adjusting set of parameters in a wireless mobile system in real-time is based on conditions measured throughout the network as associated with minimizing interference in the system, varying frequency and time-variable traffic loads are among the conditions measured, update of parameter sets are based on measured interference levels, col. 5, line 13-67, col. 15, line 29 thru col. 16).

Regarding claim 76, Levin further discloses maximizing payload, capacity and gain (Fig. 7 & 8).

Regarding claim 81, Levin further discloses optimizing a set of line characters/parameters in an ADSL/ISDN communication system whereby the architecture also includes a video server for communicating video data via video software installed on the video server (Fig. 1, col. 4, line 27-35, col. 16, line 37-48).

Regarding claim 92, Levin further discloses optimizing a set of line characters/parameters in an ADSL/ISDN communication system whereby the architecture also includes a video server for communicating video data via video software installed on the video server (Fig. 1, col. 4, line 27-35, col. 16, line 37-48).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



9. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dicker et al (US PAT. 6,975,603) in view of Levin et al (US PAT. 6,625,777).

Regarding claim 36, as indicated above, Dicker discloses optimizing set of parameters in a cordless/wireless communication system. Dicker is silent on allocation of parameters. In a wireless communication system Levin discloses allocation process associated with the allocation of various parameters with respect to adjusting channel parameters, whereby the allocation includes allocating power, channels and capacity (Fig. 8, col. 6, line 13-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement allocation of parameters such as capacity, power and channels as taught by Levin with the teachings of Dicker for the purpose of managing resources while optimizing system and to further minimize loss of communication in a multi-user system.

10. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dicker et al (US PAT. 6,975,603) in view of Feuerstein et al (6,141,565).

Regarding claim 39, as indicated above, Dicker discloses optimizing set of parameters in a cordless/wireless communication system. Dicker is silent on set of limits for capacity and coverage in a communication system that includes a base station controller (BSC) and customer equipment. In analogous art, Feuerstein discloses a wireless system, whereby communication exist between BSC and user mobile/customer premise, wherein a set of parameters are optimized and the architecture further includes applying limits on capacity and coverage (Fig. 100, col. 7, line 25-65, col. 8, line 39-67). Therefore, it would have been obvious

to one of ordinary skill in the art at the time of the invention to have been motivated to implement a set of limits with respect to capacity and coverage in a wireless system wherein communication between BSC and mobile user exist as taught by Feuerstein for the purpose of further managing the use of resources in a multi-user environment as to minimize poor communication and contention.

11. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dicker et al (US PAT. 6,975,603) in view of Haartsen (6,650,630).

Regarding claim 41, as indicated above, Dicker discloses optimizing set of parameters in a cordless/wireless communication system. Dicker is silent on optimizing associated with uplink and downlink in a duplex communication system having a base station controller. In analogous art, Haartsen discloses managing traffic in a TDD communication system wherein the architecture includes a BSC communicating with remote terminals, and optimizing as associated with users TX and RX periods (uplink/downlink) (Fig. 13, Abstract, col. 14, line 1-26, col. 15, line 33-45, col. 16, line 15-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement optimizing characteristics associated in a duplex communication system whereby communication between mobiles and BSC exist as taught by Haartsen with the teachings of Dicker for the purpose of further managing traffic resources along with obtaining minimal loss of communication information as channel optimization performed.

12. Claim 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Dicker et al (US PAT. 6,975,603) in view of Levin et al (US PAT. 6,625,777).

Regarding claim 42, as indicated above, Dicker discloses a communication system that utilizes optimizing channel parameters to minimize information loss as associated with a set of parameters in a cordless/wireless communication system. Dicker is silent on optimizing responsive to video applications. In a communication system wherein sets of channel/line characteristics/parameters are optimized, Levin discloses optimizing a set of line characters/parameters in an ADSL/ISDN communication system whereby the architecture also includes a video server for communicating video data via video software installed on the video server (Fig. 1, col. 4, line 27-35, col. 16, line 37-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement optimizing channel characteristics as associated with the communication of video service as taught by Levin with the teachings of Dicker for the purpose of further minimizing loss of multimedia information and improve communication efficiency.

13. Claims 51, 54, 56, 90 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levin et al (US PAT. 6,625,777) in view of Dicker et al (US PAT. 6,975,603).

Regarding claim 51 and 90, as indicated above, Levin discloses an integrated communication system wherein optimization of a set of line/channel characters/parameters is utilized for improving communication. However, Levin is silent on spatial separation of communication links. In analogous art, as indicated above, Dicker discloses a communication system that utilizes optimizing channel parameters to minimize information loss. Dicker further discloses optimizing set of parameters with respect to separation of channels, and optimizing channel parameters by using modulation whereby each frequency maintains spectral

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spacing/spatial varying as it is associated with interference (col. 3, line 41-47, col. 4, line 26-67, col. 5, line 63 thru col. 6, line 4.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement spatial separation of channels as taught by Dicker with the teachings of Levin for the purpose of further improving system configuration through optimizing channel characteristics.

Regarding claims 54, 56 and 93, as indicated above, Levin discloses an integrated communication system wherein optimization of a set of line/channel characters/parameters is utilized for improving communication. However, Levin is silent on optimal performance associated with uplink and downlink. As indicated above, Dicker discloses a communication system that utilizes optimizing channel parameters to minimize information loss. Dicker further discloses optimizing set of parameters with respect to bandwidth and associated transmit channel/downlink and receive channel/uplink wherein frame length includes transmit/receive (uplink/downlink) channels and the frame length is asymmetrically subdivided (Fig. 4, col. 5, line 50-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement associating the bandwidth with the uplink/downlink and subdividing frame lengths associated with channels in optimizing channels as taught by Dicker with the teachings of Levin to further manage and minimize information loss.

14. Claim 55 and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levin et al (US PAT. 6,625,777) in view of Dicker et al (US PAT. 6,975,603) as applied to claims 50, 52, 54 above, and further in view of Raghavan et al (6,128,500).

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Regarding claim 55 and 94, as indicated above, Levin and Dicker discloses optimizing sets of parameters associated with a set of channels. But, both Levin and Dicker are silent on utilizing a BSC and its association with user equipment. In a cellular communication system that utilizes optimization/reconfiguring of channel parameters, Raghavan discloses an architecture that includes an access manager/base station controller configured to control call activity between receive calls (user equipment mobile) and transmit calls (mobile user equipment) in conjunction with optimization processing (Fig. 1 & 2, col. 2, line 65 thru col. 3, line 12, line 37-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement communication between base station controller and user equipment as taught by Raghavan with the combined teachings of Levin and Dicker for the purpose of further managing/control communication and minimize information loss in a wireless communication system.

15. Claim 80 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levin et al (US PAT. 6,625,777) in view of Haartsen (6,650,630).

Regarding claim 80, as indicated above, Levin discloses an integrated communication system wherein optimization of a set of line/channel characters/parameters is utilized for improving communication. However, Levin is silent on optimizing associated with uplink and downlink in a duplex communication system having a base station controller. In analogous art, Haartsen discloses managing traffic in a TDD communication system wherein the architecture includes a BSC communicating with remote terminals, and optimizing as associated with users TX and RX periods (uplink/downlink) (Fig. 13, Abstract, col. 14, line 1-26, col. 15, line 33-45, col. 16, line 15-50). Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to be motivated to implement optimizing characteristics associated in a duplex communication system whereby communication between mobiles and BSC exist as taught by Haartsen with the teachings of Levin for the purpose of further managing traffic resources along with obtaining minimal loss of communication information as channel optimization performed.

***Allowable Subject Matter***

1. Claims 4-12, 14-17, 60-68, 70-73 are allowed over prior art.
2. Claims 78, 79, 84, 85, 86 and 96 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
3. The following is an examiner's statement for indicating reason for allowance: Although the cited prior art teaches a point-to-multi-point communication system that includes groups of codeword associated with OSI physical layer and MAC layer, wherein the sending of first values, and producing second information regarding characteristics of a communication channel in response to a result of the steps of sending and adjusting plurality of first values, they fail to teach or suggest with respect to independent claim 4 and 60 obtaining characteristics of a communication system in response to a first set of values and determining a second set, adjusting includes calculating a newer set of values for link in response to a combination of an older set of values and an adjusted set of values, with respect to 79, optimizing includes selection with regard to optimal performance in response to separate conditions for individual links, with respect to claim 85, time-varying adjustment responsive to a set of QoS application requirements, with respect to claim 86, time-varying adjustment responsive to a set of time-

delays or time variations for application service latency, with respect to claim 78, optimizing includes a set of limits for capacity and coverage, with respect to claim 84, time-varying adjustment is operative to simultaneously adjust multiple ones of plurality of communication parameters, and with respect to claim 96, uplink and downlink are responsive to control using separate sets of plurality of parameters.


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

January 17, 2006

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
1/18/06